A REPORT ON TWO RECENT COLLECTIONS OF BUTTERFLIES FROM HONDURAS

ROSE SAWYER MONROE

Dept. of Biology, University of Louisville, Louisville, Ky.

GARY N. ROSS AND ROGER N. WILLIAMS

Dept. of Entomology, Louisiana State Univ., Baton Rouge, La.

While employed with other endeavors in the Central American republic of Honduras, Monroe and Williams each made field collections of Rhopalocera. Williams was in Honduras as an employee of the United Fruit Company, and Monroe was there as an assistant to her husband, who was engaged in ornithological research.

Literature pertaining to the Lepidoptera of Honduras is scarce. The only extensive collections known to us were made by G. M. Whitely and E. Wittkügel and recorded in Godman and Salvin (1879–1901) or in Seitz (1923). Other than these two general works, records are limited to references in various reviews and revisions of groups of Lepidoptera.

In the collections of Monroe and Williams are 205 species of butterflies, including many previously unrecorded from the republic. Identifications were made by Ross with the assistance of various specialists. Several specimens that remain unidentifiable for various reasons are omitted from this paper and may represent further additions to the known Lepidoptera of Honduras.

COLLECTING SITES

The specimens were taken primarily in the departments of Cortés and Atlántida; a few others came from the departments of Yoro, Santa Bárbara, Comayagua, and Choluteca, and the Distrito Central. The following localities may be found by referring to the map (Fig. 1); numbers in brackets following place names correspond to those in Fig. 1.

1. Department of Cortés.

El Jaral [12] is a village on the northern end of Lake Yojoa at an elevation of about 2100 feet. The majority of specimens with this label were secured at $Finca\ F\acute{e}$, a coffee plantation one mile northwest of the village. This finca is an area of tropical rain and deciduous forest with the undergrowth cleared for coffee plantings. Most of the butterflies were taken along pathways in the forest, in clearings, or in adjoining fields.

Along the main road leading southward from San Pedro Sula is *Amapa* [11], location of one of the few remaining expanses of forest in that part

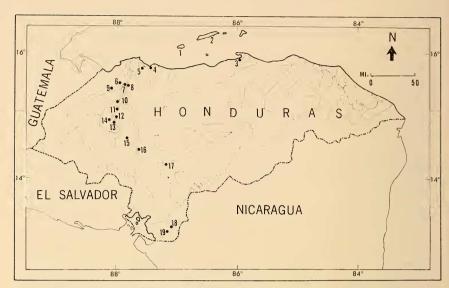


Fig. 1. Map of Honduras, showing localities mentioned in text. Numbers refer to the following: (1) Utila, (2) Ruatan [= Roatán], (3) Trujillo, (4) Tela, (5) San Alejo, (6) San Pedro Sula, (7) La Lima, (8) Progreso, (9) Cofradía, (10) Potrerillos, (11) Amapa, (12) El Jaral, (13) El Sauce, (14) Cerro Santa Bárbara, (15) Siguatepeque, (16) Comayagua, (17) Cerro San Juancito, (18) El Corpus, and (19) Namasigüe. (Map adapted from Monroe, 1965).

of Cortés. The gallery forest there is also partly deciduous. Amapa is about 13 miles south of Potrerillos and at an elevation of about 300 feet.

Potrerillos [10] is a town on the Sula (Ulúa River) plain and is surrounded by rather dry scrub country. Virtually all specimens with this label were taken south of the town along the road. In August and September, butterflies were congregated in numbers at roadside puddles.

San Pedro Sula [6] is the largest town on the Sula plain. Although rain forest was extensive in the years that Whitely and Wittkügel collected there, undisturbed forest exists now only on the hills and mountains overlooking the town on its western border. Our specimens were captured either in the town or in surrounding fields.

La Lima [7], the location of the Research Division of the United Fruit Company, is seven miles east of San Pedro Sula and also is non-forested. The butterflies from there were collected near the homes of company personnel.

Just west of La Lima lies *La Mesa*, a farm with meadows, some forest, and artificial plantings of bamboo. Santa Rosa Farm, six miles northeast of La Lima on the road to Progreso, is primarily pasture.

Guaruma #1, #2, and #3 are banana farms, one, three, and five

miles west of La Lima, respectively. These and the preceding localities on the Sula plain are at about 150–250 feet elevation. Specimens from the Guaruma stations were taken in or near the scattered remaining forest.

Nine miles west of La Lima, just beyond Guaruma #3, is *Calán*, another semi-forested locality. Some of the specimens were taken in pastures, others on the forested hillside. North of Calán and one mile south of San Pedro Sula is *La Cumbre*, a site overlooking the Chamelecón River.

Cofradía [9] is a town in the Quimistán (Chamelecón) Valley and is 15 miles southwest of San Pedro Sula. The specimens from there were captured in open grassy fields.

2. Department of Santa Bárbara.

Cerro Santa Bárbara [14], on the western side of Lake Yojoa, is about five miles west of El Jaral. Butterflies were taken in low montane rain forest and along the forest edges. This forest represents a transition zone from tropical rain forest to cloud forest and contains flora and fauna typical of each.

El Sauce [13] is a village south of Cerro Santa Bárbara. The specimens from there were captured in grassy fields near the western shore of Lake Yojoa.

3. Department of Atlántida.

Along the Caribbean Sea, specimens were taken at the port of *Tela* [4]. All were flying on or near the beach. Three miles inland from Tela is *Lancetilla*, an experiment station of the United Fruit Company surrounded by dense tropical rain forest. Flowing from the hills above is a river that serves as the water supply for Tela. The highest elevation at which our specimens were secured was approximately 500 feet.

San Alejo [5], an African oil palm plantation of the United Fruit Company, also has a watershed in the nearby tropical rain forest. Williams' specimens were taken on the plantation, Monroe's in the forest. This locality is 10 miles west of Tela and is only slightly above sea level.

4. Department of Yoro.

Specimens were obtained only near the town of *Progreso* [8]. These were taken at an elevation of 200–500 feet on the hills east of the town.

5. Department of Comayagua.

Specimens were secured from an area of pine two miles south of Siguatepeque [16]. At that locality the elevation is about 4000 feet.

In the arid Comayagua Valley, the town of *Comayagua* [15] is situated at an elevation of 1900 feet.

6. Distrito Central.

Cerro San Juancito [17], as it is known to most naturalists, is a peak on the road to the silver mines near the town of San Juancito. It is located 10 miles northeast of the capital of Honduras, Tegucigalpa. Covering the mountain is a dense cloud forest that remains virtually undisturbed. Specimens were obtained at elevations from 6000 to 7000 feet.

7. Department of Choluteca.

On the Pacific slope in this department, specimens were captured at three localities. *El Corpus* [18], situated 1000 feet above the Choluteca Valley, is a town surrounded by forested hills. The specimens were taken in this monsoon (deciduous) forest, which is deceptively lush in the rainy season (September–October) and usually dry during the rest of the year. Southwest of El Corpus are the two other localities, *Namasigüe* [19] and *Palmerola*. Specimens from these two areas were taken in grassy fields with scattered trees, in primarily arid scrub, or in deciduous forest.

The three northernmost localities, two islands, *Utila* [1] and *Ruatan* [2], in the Caribbean and the port city *Trujillo* [3], are localities visited by previous collectors, to which reference is made in the text.

LIST OF SPECIMENS

In the following list of specimens, the species marked with an asterisk (*) have not been previously recorded from Honduras, although in most cases they are known to occur both to the north and to the south of the republic. There are few specimens listed for which the data are not complete: Lancetilla, Spring 1962 (RNW) and Department of Cortés, 10 Aug. 1962 (RSM). At Lancetilla between 15 Jan. and 15 May 1962, several specimens were captured for Williams by one of his assistants. The specimens collected on 10 Aug. 1962 were taken either at El Jaral or at Potrerillos, but the exact location was lost for several specimens obtained on that date. Unless otherwise indicated, all specimens were collected during 1962.

All specimens are currently retained in the private collections of Monroe (RSM) and Williams (RNW).

PAPILIONIDAE

Graphium philolaus (Boisd.).—Calán, 14 July 1961, 17 May; La Lima, 14, 15 May; 3 & \$\delta\$, 1 \text{Q} (RNW).

Graphium protesilaus (L.).—Calán, 17, 25 May, 2 & & (RNW).

Graphium epidaus epidaus (Doubl., Westw. & Hew.).—Calán, 14 July 1961, 13

(RNW).

Battus polydamas (L.).—Calán, 25 May; Guaruma #2, 26 Oct. 1961; La Lima, 15 May; Progreso, 21 May 1961; Lancetilla, May, Spring 1962; 3 ₺ ₺, 3 ♀ ♀ (RNW). Potrerillos, 29 Aug., 1 & (RSM).

*Battus belus varus (Kol.).—Amapa, 15 July 1961, 13 (RNW). This species has been recorded from Guatemala and to the south of Honduras (Seitz, 1923). This individual was captured while it was flying 2-3 feet above the ground

in gallery forest.

Parides areas mylotes (Gray).—Lancetilla, 16, 18, 21, 23 June 1961, 2 \$ \$, 2 \$ \$

(RNW). Lancetilla, 19 Aug., 18 (RSM).

Parides iphidamas (Fabr.).—Lancetilla, 10, 11, 18, 26 June 1961, Spring 1962, 4 & &, 1 \, (RNW). Lancetilla, 19 Aug.; El Jaral, 5 Nov.; 2 & &, 1 \, (RSM). Assignment of this heterogenous group of specimens to this species is tentative.

*Parides lycimenes lycimenes (Boisd.).—Lancetilla, 17 Aug., 1 & (RSM).

Parides polyzelus polyzelus (Feld.).—La Lima, 5 Dec. 1961; Santa Rosa Farm, 19 Nov. 1961; San Alejo, 19 Nov. 1961; 2 ₺ ₺, 1♀ (RNW). El Jaral, 22 Sept., 1♀ (RSM).

Parides montezuma (Westw.).—Calán, 9 July 1961; La Lima, 14, 15 May; 1 ♂, 3 ♀ ♀

(RNW).

Papilio anchisiades idaeus Fabr.—Guaruma #1, 19 April, 10 ô ô, 6♀♀, larvae; La Lima, 14 May, 19 (RNW). The nearly full-grown, gregarious larvae were taken from an orange tree. They fed nocturnally for about one week in captivity, then began pupating on 26 April. The adults emerged 9-14 May.

*Papilio polyxenes polyxenes Fabr.—El Jaral, 12, 25 Aug., 23 Sept., 23 3, 19

(RSM).

Papilio thaos autocles Roth. & Jord.—Calán, 28 Aug. 1961, 17 May; La Mesa, 27 Aug. 1961; Lancetilla, 19 May; 3 & &, 1 \, (RNW). El Jaral, 23 Sept.; Potrerillos, 29 Aug.; Cerro Santa Bárbara (3500'), 22 Nov.; 1δ, 2♀♀ (RSM).

Papilio victorinus victorinus Doubl.—El Jaral, 5 Nov., 1♀ (RSM).

PIERIDAE

*Dismorphia praxinoe (Doubl.).—El Jaral, 7, 26 Aug., 4, 22 Sept., 3 & &, 1 \, 2 (RSM). This species was found flying low through the semi-open forest.

*Dismorphia fortunata (Luc.).—El Jaral, 17 Sept., 1 & (RSM).

*Enantia albania Bates.—El Jaral, 9, 13, 14, 27 Aug., 17 Sept., 3 & &, 2 \, \, \, (RSM). Two kinds of males are included here: two individuals are cream-colored with brown edging at the apex of the forewing; the third male is yellow with heavy orange suffusion and two small dark spots along the costal margin of the forewing in addition to the same brown marking on the apex. The females are yellow with more dark markings on the dorsal forewing than the two male forms.

*Leptophobia aripa elodia (Boisd.).—El Jaral, 14, 23 Sept., 1\$, 1\$ (RSM). *Pereute charops (Boisd.).—El Jaral, 1, 5 Nov., 2\$\$, 2\$\$ (RSM). These

individuals were taken in shaded forest.

Itabalia demophile calydonia (Boisd.).—2 mi. S El Corpus, 7 Oct., 1 & (RSM). This male is the first specimen of this species from the Pacific slope of Honduras. Godman and Salvin (1879-1901) list specimens from San Pedro Sula and Ruatan, one of the Bay Islands. Monroe's specimen was captured as it flew along a trail in the monsoon forest.

Itabalia pisonis kicaha (Reak.).—Lancetilla (500'), 27 June 1961, 1 & (RNW).

This individual was taken in dense forest.

Ascia monuste monuste (L.).—La Lima, 15 March 1961, 13 Feb., 7 May; Lancetilla, Spring 1962; 3 & &, 1 \, (RNW). Siguatepeque, 24 Aug.; Potrerillos, 29 Aug.; 588 (RSM). These specimens constitute the first mainland record for this species; the previous Honduran record is from Ruatan (Godman and Salvin, 1879-1901).

Ascia josephina (Btlr. & Druce).—Calán, 9 July 1961, 17 May, 1 &, 1 \, (RNW).

Melete isandra (Boisd.).—Calán, 29 Oct. 1961, Spring 1962, 2 & & (RNW). Anteos chlorinde (Godt.).—Calán, 17 May; Guaruma #2, 18 July 1961; 2 & &

(RNW). El Jaral, 6, 13 Aug.; Potrerillos, 29 Aug.; 3 & &, 1 \, (RSM).

Phoebis sennae marcellina (Cr.).—Guaruma #3, 17 July 1961; La Lima, 8 July 1961, 15 May; Lancetilla, 18 June 1961, Spring 1962; San Alejo, 21 April; 5 \$ \$, 1 \$\nabla\$ (RNW). El Jaral, 6, 7, 12 Aug.; Potrerillos, 29 Aug.; 4 \$ \$, 4 \$\nabla\$, 4 \$\nabla\$ \$\nabla\$, 4 \$\nabla\$ \$\nabla\$, 4 \$\nabla\$ \$\nabla\$, and the markings are not as conspicuous as those of a typical female, either dorsally or ventrally.

Phoebis philea (Johan.).—El Jaral, 14 Sept.; Potrerillos, 10, 11, 29 Aug.; 4 ∂ ∂, 1 ♀

(RSM).

Phoebis argante (Fabr.).—Progreso, 21 May 1961; Calán, 17, 25 May; 4 & & (RNW). El Jaral, 12 Aug.; Potrerillos, 29 Aug.; 1 & , 1 \, (RSM).

*Phoebis agarithe maxima (Neum.).—Guaruma #2, 18 July 1961, 13 (RNW).

Phoebis statira jada (Btlr.).—Calán, 25 May, 1 & (RNW).

Eurema albula (Cr.).—El Jaral, 6, 8, 9, 13, 25 Aug.; Potrerillos, 10 Aug.; Lancetilla, 19 Aug.; 6 & &, 3 & & (RSM). These specimens constitute the first Honduran mainland records for the species, which has been previously recorded only from Ruatan (Godman and Salvin, 1879-1901).

Eurema daira daira (Godt.).—Lancetilla, Spring 1962, 1 & (RNW). Potrerillos, 11, 29 Aug.; Dept. of Cortés, 10 Aug.; Tela, 18 Aug.; Siguatepeque, 24 Aug.;

6 8 8, 2♀♀ (RSM).

Eurema boisduvaliana Feld. & Feld.—El Jaral, 6, 7, 8, 9, 13, 25 Aug., 16 Sept.;

Potrerillos, 10 Aug.; 7 & & 3, 3 & & 9 (RSM).

Eurema proterpia (Fabr.).—La Cumbre, 14 May 1961; La Lima, 13 Feb. 1962; Cofradía, 3 Sept. 1961; 3 \$ \$ (RNW). El Jaral, 25, 27 Aug.; Tela, 18 Aug.; 4 \$ \$ \$, 2 \$ \$ \$ (RSM). The La Cumbre specimen is a tailed, dry season or winter form.

Eurema lisa Boisd. & LeC.—Potrerillos, 11 Aug.; Tela, 18 Aug.; 13, 19 (RSM). Eurema nise nelphe (R. Feld.).—Potrerillos, 10 Aug.; Siguatepeque, 24 Aug.; 233, 19 (RSM).

Eurema dina westwoodi (Boisd.).—El Jaral, 25 Aug., 18 (RSM).

Eurema nicippe (Cr.).—Potrerillos, 10 Aug., 26 6 (RSM).

ITHOMIDAE

Tithorea tarricina Hew.—Lancetilla, 10, 23 June 1961, Spring 1962, 3 & \$ \$, 2 \ \ \ (RNW). Lancetilla, 17 Aug. 1962, 1 \ \ (RSM). Lancetilla is between Truxillo (= Trujillo) and San Pedro Sula, the localities from which specimens of two races of this species are recorded in Fox (1956).

Mechanitis polymnia lycidice Bates.—La Lima, 15 May; San Alejo, 19 Nov. 1961; Lancetilla, 10, 18, 23, 25, 26 June 1961, Spring 1962; 6 ₺ ₺ , 8 ♀ ♀ (RNW). El Jaral, 7, 9, 12, 13, 14, 16, 17, 26 Aug., 4, 16, 23 Sept., 13 ₺ ₺ , 12 ♀ ♀ (RSM). The La Lima specimens are the only ones that were not taken in rain forest or at its edge.

Mechanitis menapsis saturata Godm.—Lancetilla, 23 June 1961, Spring 1962, 18,

1♀ (RNW). El Jaral, 23 Sept., 1♀ (RSM).

Hypothyris lycaste diomaea (Hew.).—Lancetilla, 11 June 1961, 13 (RNW).

Napeogenes tolosa (Hew.).—El Jaral, 23 Sept., 1 & (RSM).

*Ithomia patilla (Stdgr.).—Lancetilla, 18 June 1961, 19 (RNW). El Jaral, 7, 14, 16 Aug., 4, 23 Sept., 3 & &, 29 9 (RSM).

*Hyposcada virginiana virginiana (Hew.).—El Jaral, 5 Sept., 1 & (RSM). *Aeria pacifica G. & S.—Lancetilla, 2, 26 June 1961, 1 &, 1 \, (RNW).

Callithomia hezia hezia (Hew.).—Lancetilla, 27 June 1961, Spring 1962, 1 ♂, 1♀ (RNW).

Dircenna klugi (Geyer).—El Jaral, 7, 12, 13, 26, 27 Aug., 4, 16, 23 Sept., 6 3 3, 6♀♀ (RSM).

Dircenna euchytma (Feld.).—El Jaral, 16 Sept., 19 (RSM).

Pteronymia cottyto (Guér.).—Lancetilla, Spring 1962, 19 (RNW). El Jaral, 6 Aug., 1♀ (RSM).

Godyris sosunga (Reak.).—Lancetilla, 26 June, Spring 1962, 3 & & (RNW).

*Greta nero (Hew.).—El Jaral, 16 Aug., 19 (RSM).

Greta oto (Hew.).—Lancetilla, Spring 1962, 13 (RNW). El Jaral, 6, 16, 26 Aug. 1 ♂, 5 ♀ ♀ (RSM).

*Hypoleria cassotis (Bates).—Lancetilla (500'), 27 June 1961; Lancetilla, Spring 1962; 288, 19 (RNW). Seitz (1923) listed this butterfly from Guatemala and Panama.

DANAIDAE

Lycorea ceres atergatis (Doubl.).—Calán, 14 July 1961, 25, 26 May, 1∂, 2♀♀

(RNW). El Jaral, 7, 9 Aug., 1 €, 1 ♀ (RSM).

Danaus plexippus plexippus (L.).—La Lima, 5, 11 March, 14 May, 2 8 8, 1♀ (RNW). El Jaral, 21 Aug., 1 Q (RSM). The two La Lima specimens taken in March were reared in captivity and the dates represent those of emergence.

Danaus gilippus strigosus (Bates).—Calán, 25 May; La Mesa, 18 July, 27 Aug. 1961; La Lima, 20 Feb., 17 May; Lancetilla, 8 June 1961, 27 Jan., Spring 1962; 588, 399 (RNW). Tela, 18 Aug., 18 (RSM). These specimens represent the first mainland records for Honduras, since the species has been previously recorded only from Ruatan (Godman and Salvin, 1879-1901).

Danaus eresimus montezuma Tal.—Guaruma #3, 17 July 1961; La Mesa, 27 Aug. 1961; Lancetilla, 2 June 1961, Spring 1962; 2 ₺ ₺, 4 ♀ ♀ (RNW). El Jaral,

13 Aug., 1 & (RSM).

SATYRIDAE

*Callitaera menander (Drury).—Lancetilla (500'), 27 June 1961, 1 & (RNW). *Antirrhea miltiades (Fabr.).—Lancetilla, Spring 1962, 1 & (RNW). This species has been previously reported from Guatemala and Nicaragua (Seitz, 1923).

*Pierella luna luna (Fabr.).—Lancetilla, 30 June 1961, 1 & (RNW). This species has been previously recorded from most of the other Central American countries

(Seitz, 1923).

*Taygetis andromeda (Cr.).—Lancetilla, Spring 1962, 2 3 3 (RNW). El Jaral, 12, 13, 14 Aug., 16 Sept.; Lancetilla, 19 Aug.; 4 ₺ ₺, 1♀ (RSM). Previously, this satyr has been known from countries on both sides of Honduras (Seitz, 1923).

Taygetis nympha Btlr.—Lancetilla, 7 June 1961, 1 ₺, 1♀ (RNW).

*Euptychia hesione (Sulz).—San Alejo, 19 Nov. 1961, 13 (RNW). El Jaral, 9 Aug., 2 & & (RSM).

Euptychia metaleuca (Boisd.).—El Jaral, 27, 28 Aug., 17 Sept., 2 Nov., 2 & &, 3♀♀ (RSM).

Euptychia labe Btlr.—Lancetilla, 19 Aug., 19 (RSM).

Euptychia hermes (Fabr.).—La Lima, 6 Feb., 24 March; Lancetilla, 27 Jan.; 4 ô ô, 19 (RNW). El Jaral, 6, 14 Aug.; Siguatepeque, 24 Aug.; Lancetilla, 19 Aug.; 4 ₺ ₺, 2 ♀ ♀ (RSM).

Euptychia libye (L.).—El Jaral, 9, 12, 13, 28 Aug., 16, 17 Sept.; 3 mi. S El Corpus, 29 Sept.; 6 mi. NE Namasigüe, 29 Sept.; 5 8 8, 499 (RSM). In Honduras the species previously has not been recorded from the mainland or the Pacific slope.

Euptychia similis Btlr.—Lancetilla, 17 Aug., 19 (RSM).

*Cyllopsis hedemanni Feld.—El Jaral, 17 Sept., 1 specimen of undetermined sex

(RSM). This species has been previously recorded from Mexico, Guatemala, and Costa Rica (Seitz, 1923).

Brassolidae

- Opsiphanes tamarinde Feld.—La Lima, 24 March 1961; Lancetilla, 23 June 1961; $2 \circ \circ (RNW)$.
- Opsiphanes guiteria quirinus G. & S.—Cerro Santa Bárbara (3500'), 28 Nov., 1 & (RSM).
- *Caligo oileus scamander (Boisd.).—Lancetilla, 28 June 1961, 13 (RNW). Lancetilla, 19 Aug., 13 (RSM). This species has been recorded by Seitz (1923) from "Costa Rica, Panama (?), Mexico (?), and Guatemala (?)."
- Caligo memnon (Feld.).—La Lima, 13 Aug. 1961, 1& (RNW). El Jaral, 21 Aug., 2, 17 Sept., 14, 22 Nov., 3& &, 2QQ (RSM). These butterflies were seen in their typical crepuscular flight pattern in semi-open forest. In addition, they were noted in large numbers around ripened bananas; the larvae are known to cause considerable damage to bananas.
- Caligo eurilochus sulanus Fruhs.—Lancetilla, 6 Feb., 19 (RNW).

Nymphalidae

- Morpho peleides montezuma Guén.—El Jaral, 28 Aug., 1 & (RSM). Besides the recorded specimen, there were many additional sight records, which may have been of other species in this genus. Of particular interest are sightings of two individuals flying across the road in very arid localities. One was seen on 24 Sept. 1962 (RSM) near Comayagua in the Comayagua Valley, typified by scrubby growth with cacti; a few days later, south of Tegucigalpa in the Dept. of Francisco Morazán, another was recorded in a region of precipitous mountains with scrubby pines.
- Actinote anteas (Doubl. & Hew.).—El Jaral, 17 Sept.; Cerro Santa Bárbara (4500'), 28 Oct.; 29 9 (RSM).
- **Actinote leucomelas (Bates).—Cerro Santa-Bárbara (4000'), 7 Dec., 13, 19 (RSM).
- Dryadula phaetusa (L.).—Lancetilla, Spring 1962, 13 (RNW).
- *Agraulis vanillae incarnata (Riley).—La Lima, 3 Sept. 1961, 1 & (RNW). El Jaral, 12 Aug., 1 & (RSM).
- *Dione juno huascama (Reak.).—El Jaral, 14 Aug., 13 (RSM). *Dione moneta poeyii (Btlr.).—El Jaral, 18 Sept., 13 (RSM).
- Dryas iulia iulia (Fabr.).—Calán, 17, 18, 25 May; La Lima, 27 Aug. 1961, 7, 15 May; Progreso, 21 May 1961; Lancetilla, 11 June 1961, 25 Jan., 21 April, Spring 1962; 12 \$\delta\$, 4\partimes \text{(RNW)}. El Jaral, 6, 11, 12, 13, 26 Aug.; Potrerillos, 11 Aug.; Dept. of Cortés, 10 Aug.; 5\delta\$\delta\$, 2\partimes \text{(RSM)}. This butterfly was one of the most common species in open areas.
- *Heliconius (Semelia) aliphera gracilis (Stich.).—El Jaral, 13 Aug., 23 Sept., 2 \$ \$, 1 \$\varphi\$ (RSM).
- Heliconius (Eucides) cleobaea zorcaon (Reak.).—El Jaral, 8, 12 Aug., 28 8, 19 (RSM).
- Heliconius (Heliconius) ismenius telchinia Doubl.—San Alejo, 21 April; Lancetilla, 10 June 1961, Spring 1962; 3 & & (RNW). El Jaral, 17 Aug., 1 \(\text{Q} \) (RSM).
- Heliconius (Heliconius) anderida zuleika Hew.—3 mi. S El Corpus, 29 Sept., 1& (RSM). This specimen was taken in monsoon forest.
- *Heliconius (Heliconius) cydno galanthus Bates.—Lancetilla, 27 June 1961, Spring 1962, 2 & & (RNW).

*Heliconius (Heliconius) doris transiens Stgr.—Lancetilla, 20 June 1961, 19 (RNW).

Heliconius (Heliconius) sapho leuce Doubl.—Lancetilla, 26 May, 11 June 1961, Spring 1962, 3 & & (RNW).

*Heliconius (Heliconius) sara veraepacis Bates.—El Jaral, 17 Sept. 1962, 1 & (RSM).

Seitz (1923) recorded this species from Guatemala and Panama.

Heliconius (Heliconius) petiveranus Doubl.—Calán, 25 May; Guaruma #3, 17 July 1961; La Lima, 13 Feb.; San Alejo, 19 Nov. 1961, 21 April; Lancetilla, 17, 23, 25 June 1961, 10 May, Spring 1962; 12 & &, 1 \, (RNW). El Jaral, 6, 8, 9, 12 Aug., 4 Sept., 5 & & (RSM). This species usually was seen along forest edge or in semi-open areas.

Heliconius (Heliconius) charitonius vazquezae Com. & Br.—Calán, 17 May; La Mesa, 27 Aug. 1961; Lancetilla, Spring 1962; 3 & & (RNW). El Jaral, 8, 9, 12, 13 Aug., 4 & (RSM). This species was frequently collected in open areas.

Heliconius (Heliconius) hortense Guér.—Cerro San Juancito (6000'), 18 Nov., 18

(RSM).

*Euptoieta hegesia hoffmanni Com.—La Mesa, 27 Aug. 1961; La Lima, 13 Aug. 1961, 11 May; San Alejo, 31 May 1961; Lancetilla, 26 June 1961; 4∂∂, 2♀♀ (RNW). El Jaral, 8, 9, 25 Aug.; Potrerillos, 10, 29 Aug.; 6 d d (RSM). These are, surprisingly, the first specimens of this common insect recorded from Honduras.

Chlosyne janais (Drury).—Lancetilla, 6 July 1961, 1 3, 1 2 (RNW). El Jaral, 9, 13, 14, 27 Aug., 5 & &, 2♀♀ (RSM). All specimens are of the form irrubescens

*Chlosyne hippodrome (Geyer).—3 mi. S El Corpus, 29 Sept.; 6 mi. NE Namasigüe, 29 Sept.; 2 & & (RSM). Seitz (1923) recorded this species only from Mexico, Panama, and Colombia.

Chlosyne lacinia lacinia (Geyer).—El Jaral, 12, 17, 23, 27 Aug.; Potrerillos, 10, 29 Aug.; Dept. of Cortés, 10 Aug.; El Sauce, 12 Sept.; 13 8 8 (RSM). There are

a variety of forms represented among these specimens.

Chlosyne melanarge (Bates).—Cofradía, 3 Sept. 1961, 13, 19 (RNW).

Chlosyne erodyle (Bates).—El Sauce, 12 Sept., 1 & (RSM).

Chlosyne gaudealis (Bates).—Lancetilla, 17 June 1961, Spring 1962, 3 & 3, 2 \ \ \ (RNW). Lancetilla, 17 Aug., 1 \ \ (RSM). Several of these specimens are of the form laeta Röber.

Thessalia theona (Ménét.).—El Jaral, 6, 12, 13, 14, 29 Aug., 13, 499 (RSM). *Microtia elva Bates.—Palmerola, 28 Sept., 1 & 1 \, (RSM). These specimens were

captured as they flew low in an open, though shaded, dry area.

Phyciodes (Eresia) frisia tulcis (Bates).—La Lima (greenhouse), 20 Feb., 18 (RNW). El Jaral, 6, 10, 25, 27 Aug., 3 & &, 1 Q (RSM). Genitalic dissections indicate that these specimens are typical of the subgenus Eresia and are definitely frisia.

Phyciodes (Eresia) claudina guatemalena (Bates).-El Jaral, 9, 12, 13, 14, 26

Aug., 9 Sept., 8 ₺ ₺, 2 ♀ ♀ (RSM).

Phyciodes (Eresia) clio (L.).—El Jaral, 12, 14, 26, 27 Aug., 4 Sept., 6 & &, 1 \, 2 (RSM).

Phyciodes (Eresia) phillyra phillyra (Hew.).—El Jaral, 6, 8, 13 Aug., 4, 17, 23 Sept., 488, 399 (RSM). According to Hall (1928-1930), no specimens have been previously captured in August or September.

*Phyciodes (Tritanassa) atronia (Bates).—El Jaral, 12 Aug., 4 Sept., 2 & & (RSM). This species is found in virtually every other Central American country (Hall,

1928-1930).

Phyciodes (Tritanassa) drusilla (Feld.).—El Jaral, 12, 14, 25, 28 Aug., 4 Sept., 4 å å, 1♀ (RSM).

*Phyciodes (Tritanassa) subota G. & S.-El Jaral, 6, 9, 21, 25, 27 Aug., 5 & &,

19 (RSM). These apparently represent a new Honduran record, since Hall (1928–1930) did not mention a Honduran specimen that could definitely be assigned to P. subota.

*Phyciodes (Tritanassa) eranites (Hew.).—El Jaral, 17 Sept., 16 (RSM).

*Phyciodes (Tritanassa) griseobasalis Röber.—El Jaral, 14 Aug., 16 (RSM).

*Vanessa virginiensis (Drury).—El Jaral, 13 Aug., 19 (RSM).

Junonia evarete evarete (Cr.).—Calán, 14 July 1961; La Mesa, 26 July 1961; 18,

1♀ (RNW). El Jaral, 14 Aug.; Potrerillos, 11 Aug.; 2♂♂ (RSM).

*Anartia jatrophae luteipicta Fruhs.—La Lima, 11 July 1961, 2 April; Lancetilla, 2, 30 June 1961; 3 & & , 2 \(\rightarrow \) (RNW). El Jaral, 28 Aug., 5 Sept.; Potrerillos, 10, 11 Aug.; Dept. of Cortés, 10 Aug.; 7 & & , 1 \(\rightarrow \) (RSM). These individuals were found in dry, open grassy areas.

Metamorpha stelenes biplagiata (Fruhs.).—Calán, 9, 14 July 1961; La Lima, 19 July 1961; 5 ℰ ℰ (RNW). El Jaral, 10, 12, 13 Aug., 3♀♀ (RSM). This species

frequently was seen in the forest or along its edge.

Metamorpha epaphus (Latr.).—Progreso, 20 Jan.; Lancetilla, Spring 1962; 2 ₺ ₺, 1♀ (RNW). El Jaral, 9, 13, 25 Aug., 5 Sept., 26 Oct.; 3 ₺ ₺, 2♀♀ (RSM). These individuals were found along or near the forest edge.

*Metamorpha superba (Bates).—El Jaral, 1 Nov., 13 (RSM).

Hypanartia lethe (Fabr.).—El Jaral, 14, 27, 28 Aug., 17 Sept., 3 & &, 1 \nabla (RSM). *Hypanartia dione (Latr.).—Cerro San Juancito (6750'), 18 Nov., 1 \nabla (RSM). This species is recorded from Guatemala and South America (Seitz, 1923).

Hypanartia venusta Fruhs.—Lancetilla, 5 June 1961, 25, 27 Jan., Spring 1962, 5 ₺ ₺, 1♀ (RNW). El Jaral, 6, 11 Aug., 4 ₺ ₺, 1♀ (RSM).

*Biblis hyperia aganisa Boisd.—Calán, 29 Oct. 1961; Lancetilla, 19 May; 2 8 8 (RNW). El Jaral, 5 Nov., 1 8 (RSM).

Pyrrhogyra hypensor G. & S.—Calán, 18 May, 18 (RNW).

*Pyrrhogyra otolais neis Feld.—Lancetilla, 16 June 1961, 1 specimen of undetermined sex (RNW). El Jaral, 5 Sept., 1 & (RSM).

Pseudonica flavilla canthara (Doubl.).—El Jaral, 14, 26 Aug., 3 & & (RSM).

Catonephele nyctimus (Westw.).—El Jaral, 9, 14 Aug., 5 Sept., 2 & &, 2 9 9 (RSM). Catonephele numilia esite (R. Feld.).—El Jaral, 11, 12 Sept., 2 & & (RSM).

*Nessaea aglaura (Westw. & Hew.).—El Jaral, 23 Sept., 1 \(\text{(RSM)}. Seitz (1923) mentioned records only from Mexico and Guatemala.

*Catagramma pacifica Bates.—El Jaral, 13 Aug., 18 (RSM).

Catagramma lyca Doubl. & Hew.—El Jaral, 10 Sept., 1 & (RSM). Catagramma titania Sal.—El Jaral, 8, 15 Aug., 2 & & (RSM).

*Catagramma pitheas (Latr.).—El Corpus, 10 Feb. 1963, 1º (RSM). This species was conspicuous and numerous on this date in the monsoon forest, although Monroe had not seen them on an earlier visit in October, 1962. Those individuals observed in February were in rather dense, though dry, vegetation and were flying 2–3 feet above the ground. Godman and Salvin (1879–1901) recorded this species from Nicaragua southward.

Diaethria anna (Guér.).—Progreso, 21 May 1961; Lancetilla, Spring 1962; 48 8

(RNW). El Jaral, 8, 14, 27 Aug., 10 Sept., 3 ₺ ₺, 1 ♀ (RSM).

Diaethria astala (Guér.).—Progreso, 21 May 1961; Lancetilla, Spring 1962; 3 & & (RNW). El Jaral, 13, 14, 25 Aug., 4, 9 Sept., 4 & &, 2 & Q (RSM). At El Jaral, this species and D. anna were captured flying in an open grassy area along a small stream adjacent to forest.

Dynamine theseus Feld.—Calán, 18 May; Lancetilla, Spring 1962; 23 & (RNW).

Potrerillos, 11 Aug., 13 (RSM).

Dynamine mylitta (Cr.).—El Jaral, 12, 14 Aug., 4, 16 Sept.; Potrerillos, 29 Aug.; 7 & & (RSM). These individuals were captured as they flew near the ground in semi-open, moist areas.

*Dynamine glauce (Bates).—Calán, 17 May, 19 (RNW).

Hamadryas februa gudula (Fruhs.).—El Jaral, 4 Sept., 1 & (RSM). All individuals representing this genus were collected in semi-open areas as they flew from tree to tree with an erratic flight, clicking their wings in characteristic manner. Hamadryas feronia farinulenta (Fruhs.).—El Jaral, 16 Sept., 2 & & , 1 ♀ (RSM).

*Hamadryas ferox (Stgr.).—Calán, 14 July 1961, 19 (RNW). This specimen

appears to be the form diasia (Fruhs.).

*Hamadryas fornax (Hüb.).—El Jaral, 25, 27 Aug., 2 & & (RSM).

*Hamadryas iphthime (Bates).—El Jaral, 16 Sept., 1 & (RSM).

Hamadryas laodamia laodamia (Cr.).—El Jaral, 10 Aug., 9 Sept., 2 & & (RSM). Hamadryas amphinome mexicana Luc.—El Jaral, 9, 13 Aug., 2 & & (RSM).

Marpesia chiron (Fabr.).—Calán, 17, 25 May; Lancetilla, 30 June 1961, 17 May; 5 ₺ ₺ , 1 ♀ (RNW). El Jaral, 21 Aug.; Potrerillos, 29 Aug.; 3 ₺ ₺ (RSM).

*Marpesia merops (Blanch.).—Lancetilla (500'), 27 June 1961, 13, 19 (RNW). These specimens were taken in the denser rain forest at Lancetilla. They represent a northern extension of the range of this species. Seitz (1923) recorded the species from Costa Rica to South America.

Marpesia berania (Hew.).—El Jaral, 12 Aug., 22 Sept., 3 & & (RSM).

*Limenitis (Adelpha) cytherea marcia (Fruhs.).—San Alejo, 19 Nov. 1961, 13 (RNW).

*Limenitis (Adelpha) iphicla (L.).—Guaruma #2, 4 Sept. 1961, 1 & (RNW). El Jaral, 12 Aug., 23 Sept., 2 \ \ \ \ \ \ (RSM).

*Limenitis (Adelpha) lerna (Hew.).—Lancetilla, Spring 1962, 1\$ (RNW). Seitz (1923) recorded this species from Nicaragua to Colombia.

*Limenitis (Adelpha) paraeca (Bates).—El Jaral, 12 Aug., 5 Nov. 1962, 2 & & (RSM). This species was recorded by Seitz (1923) from Guatemala and Costa Rica.

Chlorippe pavon (Latr.).—El Jaral, 1 Nov., 13 (RSM).

Chlorippe laure (Drury).—Calán, 25 May, 1 & (RNW). Amapa, 13 Sept.; Potrerillos, 29 Aug.; 2 & & (RSM). This species was taken along roadsides adjacent to forest. *Historis odius (Fabr.).—Lancetilla, Spring 1962, 1 & (RNW). El Jaral, 25

*Historis odius (Fabr.).—Lancetilla, Spring 1962, 13 (RNW). El Jaral, 25 Aug., 2 Dec., 233 (RSM). The specimen taken on 2 December was shot from the upper branches of a tall rain forest tree.

*Historis acheronta (Fabr.).—La Mesa, 26 July 1961, 19 (RNW). This individual was taken from what appeared to be a migrating group which was flying at

about 10 feet above an open grassy field.

Smyrna blomfildia datis Fruhs.—El Jaral, 21 Aug., 1 & (RSM).

Gynaecia dirce (L.).—La Lima, 12 Feb., 13, 19 (RNW). Cerro Santa Bárbara (4500'), 28 Oct., 13 (RSM). The specimens from La Lima were reared from larvae taken on Cecropia hondurensis Standley. The other individual was captured while it was flying along a logging road in low montane rain forest.

Anaea (Memphis) oenomais (Boisd.).—El Jaral, 27 Aug., 18 (RSM).

Anaea (Memphis) pithyusa (Feld.).—Potrerillos, 29 Aug., 18 (RSM). This individual has semi-acute forewings.

Anaea (Memphis) eurypyle confusa Hall.—El Jaral, 22 Sept., 23 & (RSM). The wings of these two specimens are not acute.

LIBYTHEIDAE

Libytheana carinenta mexicana Mich.—Calán, 17 May; Cofradía, 30 Sept. 1961; 13, 19 (RNW).

LYCAENIDAE

Nearly all the members of this family were collected in semi-open, forested regions (primarily along forest edge) or in open fields.

*Callophrys amyntor distractus Clen.—El Jaral, 21 Aug., 1 & (RSM). *Callophrys herodotus (Fabr.).—El Jaral, 17 Sept., 1 & (RSM).

- *Calycopis trebula (Hew.).—San Alejo, 17 April 1963, 19 (RSM). Because of the poor condition of this specimen, the identification is tentative. This individual was taken in second-growth tropical forest.
- Calycopis beon (Cr.).—El Jaral, 9, 12, 29 Aug., 17 Sept., 5 Nov., 3 ₺ ₺, 3 ♀ ♀ (RSM).
- *Strymon yojoa (Reak.).—El Jaral, 5 Nov.; Palmerola, 28 Sept.; 13, 19 (RSM). *Thecla marsyas damo (Druce).—El Jaral, 12 Aug., 17 Sept., 3 & & (RSM).
- *Thecla battus aufidena Hew.—Lancetilla, 2, 5 June 1961, 1 €, 1♀ (RNW). El Jaral, 28 Aug., 17 Sept., 2 & & (RSM).
- *Thecla linus togarna Hew.—El Jaral, 6, 14 Aug.; Lancetilla, 19 Aug.; 4 & & (RSM).
- *Thecla meton (Cr.).—El Jaral, 9, 14, 21, 27 Aug., 17, 23 Sept., 9 ₺ ₺, 3 ♀ ♀ (RSM).
- Thecla syncellus syncellus (Cr.).—El Jaral, 20 Sept., 5 Nov., 1∂, 1♀ (RSM).
- *"Thecla" talayra Hew.—Lancetilla, 18 June 1961, 1 & (RNW).
- *"Thecla" polibetes (Cr.).—El Jaral, 12 Aug., 23 Sept., 299 (RSM).
- *"Thecla" cambes G. & S.-El Jaral, 13 Aug., 1 & (RSM).
- *"Thecla" scopas G. & S.—El Jaral, 23 Sept., 1 \(\text{(RSM)}. \)
 *"Thecla" kalikamaha Clen.—El Jaral, 13 Aug., 1 \(\text{(RSM)}. \)
- "Thecla" sito (Boisd.).—El Jaral, 17 Sept., 2 & & (RSM). These specimens are the first recorded from the Honduran mainland, the species having been previously recorded from Ruatan (Godman and Salvin, 1879-1901).
- Hemiargus ceraunus zachaeina (Btlr. & Druce).—Tela, 18 Aug.; Palmerola, 28 Sept.; 3 & &, 2 & Q (RSM). This species was also seen in numbers on Utila, one of the Bay Islands, in May, 1963 (RSM). The specimens from Palmerola were taken at the same locale as Microtia elva, a spot very unlike the beach at Tela.
- Everes comyntas comyntas (Godt.).—El Jaral, 6, 26 Aug., 4, 23 Sept.; Tela, 18 Aug.; Lancetilla, 19 Aug.; 6 & & (RSM).

RIODINIDAE

- *Euselasia chrysippe (Bates).—Lancetilla, 17 Aug., 19 (RSM).
- *Euselasia eubule (R. Feld.).—El Jaral, 5 Nov., 233 (RSM).
- *Leucochimona vestalis vestalis (Bates).—El Jaral, 5 Sept.; Lancetilla, 19 Aug.; 1 &, 1♀ (RSM).
- Mesosemia tetrica Stich.—El Jaral, 12, 26 Aug., 2 & & (RSM). This species was seen in moist, weedy, shaded areas along forest edge.
- *Eurybia halimede (Hüb.).—El Jaral, 17 Sept., 19 (RSM).
- *Rhetus arcius thia (Mor.).—El Jaral, 14 Aug., 18 (RSM). This specimen was taken in a forest clearing where a garden was planted.
- *Calephelis velutina (G. & S.).—El Jaral, 12, 13 Aug., 2 & & (RSM).
- *Calephelis argyrodines Bates.—El Jaral, 9, 12 Aug.; Siguatepeque, 24 Aug.; 3 🕉 🕉 (RSM).
- Calephelis spp.—El Jaral, 9, 10, 12, 14, 17 Aug., 6 ₺ ₺, 1 ♀ (RSM). There are apparently two different species in this group of unidentified Calephelis. The six males have a ventral pattern that is similar to that of C. argyrodines, but they are twice the size of the latter. The single female is quite different from any other specimen we have.
- *Charmona gynaea zama (Bates).—El Jaral, 14 Aug., 23 Sept., 2 & & (RSM).
- *Lasaia narses Stdgr.—El Jaral, 9, 13, 14 Aug., 5 Nov., 3 & &, 1 \, (RSM).
- *Symmachia accusatrix Westw.—El Jaral, 17 Sept., 1 & (RSM).
- *Charis myrtea (C. & S.).—El Jaral, 13 Aug., 2 & &, 1 \, (RSM).
- *Anteros formosa (Cr.).—El Jaral, 13 Aug., 23 3 (RSM).
- Emesis lupina G. & S.—El Jaral, 9, 25 Aug., 4, 22 Sept., 3 ₺ ₺, 1♀ (RSM).
- Emesis tenedia Feld.—El Jaral, 21 Aug., 23 Sept., 2 & & (RSM).
- Emesis mandana mandana (Cr.).—El Jaral, 12, 27 Aug., 17, 23 Sept., 5 & & (RSM).
- *Emesis ocypore (Hüb. & Geyer).—El Jaral, 13 Aug., 19 (RSM).

Emesis sp.—El Jaral, 14 Sept., 13? (RSM). This individual is much darker than any other Emesis in our collections.

Theope virgilius Fabr.—El Jaral, 13, 14 Aug., 2 3 3, 1 \(\) (RSM). Identification of these specimens is tentative.

*Lemonias cilissa Hew.—El Jaral, 9, 14 Aug., 2 & & (RSM).

*Peplia lamis molpe (Hüb.).—El Jaral, 12 Aug., 23 Sept., 18, 19 (RSM). *Peplia ascolia (Hew.).—El Jaral, 9 Aug., 18 (RSM). *Calociasma lilina (Btlr.).—El Jaral, 12 Aug., 19 (RSM).

ACKNOWLEDGMENTS

We are indebted to numerous people in Honduras who helped in many ways in the collection of these specimens. We particularly wish to thank Dr. W. W. Plowden, Jr., of Finca Fé; Sr. Carlos Rodríguez Williams and Sr. J. B. Alegria, of Choluteca; Sr. José Amer, of La Lima; and Mr. Carlos Evers, Mr. John D. Dickson, III, Sr. Manuel Funes P., Mr. Richard Washburn, the late Mr. Paul H. Allen, Jr., and the many other employees of the United Fruit Company who gave their time to further our study.

Among those who helped make the Monroe expedition possible, we wish to thank Dr. George H. Lowery, Jr., of Louisiana State University; Mr. Clarence J. Schoo, of Springfield, Massachusetts; and Mr. Dulaney Logan, of Louisville, Kentucky.

For their help with our many and varied nomenclatural problems, we are further indebted to Mr. Harry K. Clench, Carnegie Museum, Pittsburgh, Pennsylvania; Dr. L. D. Miller, Catholic University, Washington, D.C.; and Mr. F. Martin Brown, Fountain Valley School, Colorado Springs, Colorado.

In addition, we would like to thank Dr. Burt L. Monroe, Jr., for his many contributions, both in the field and in the preparation of the manuscript.

LITERATURE CITED

- BATES, M., 1932. Notes on the metamorphosis of the Brassolidae (Lepidoptera). Bull. Brooklyn Ent. Soc., 27: 155-163.
- Fox, R. M., 1956. A monograph of the Ithomiidae (Lepidoptera). Part 1. Bull. Amer. Mus. Nat. Hist., 111: 5-76.
- Godman, F. C., & O. Salvin, 1879–1901. Biologia Centrali-Americana. Insecta. Lepidoptera-Rhopalocera. 2 vols. London, 1269 pp.
- Hall, A., 1928–1930. A monographic revision of the genus *Phyciodes Hübner*. Bull. Hill Mus. Suppl., 2–4: 1–204.
- MONROE, B. L., Jr., 1965. A Distributional Survey of the Birds of Honduras. Unpublished dissertation, Louisiana State University, Department of Zoology, 1013 pp.
- Seitz, A., 1923. The American Rhopalocera. Macrolepidoptera of the World. Vol. 5. Stuttgart, 1139 pp.